

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

October 05, 2015

MARK PEACOCK DUKE ENERGY EDWARDSPORT IGCC 15424 E. STATE ROAD 358 Edwardsport, IN 47528

RE: Project: GW Process Control Pace Project No.: 50128661

Dear MARK PEACOCK:

Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kenneth Hunt

kenneth.hunt@pacelabs.com

Project Manager

Enclosures

cc: RANDY MONK, DUKE ENERGY EDWARDSPORT IGCC
Mr. Rhett Moody, Duke Energy (Edwardsport Generating
Station)
BRITTANY SCHOFIELD, DUKE ENERGY
EDWARDSPORT IGCC





Pace Analytical Services, Inc.
Not NELAP Accredited

4860 Blazer Parkway Dublin, OH 43017 (614)486-5421 Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

CERTIFICATIONS

Project: GW Process Control

Pace Project No.: 50128661

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268 Illinois Certification #: 200074 Indiana Certification #: C-49-06 Kansas Certification #:E-10177 Kentucky UST Certification #: 0042 Kentucky WW Certification #:98019 Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065 Oklahoma Certification #: 2014-148 Texas Certification #: T104704355-15-9 West Virginia Certification #: 330 Wisconsin Certification #: 999788130 USDA Soil Permit #: P330-10-00128

REPORT OF LABORATORY ANALYSIS



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

SAMPLE SUMMARY

Project: GW Process Control

Pace Project No.: 50128661

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50128661001	55:Filtered Water 20150922-031	Water	09/22/15 08:40	09/28/15 09:22
50128661002	16:GW Inprocess 20150922-032	Water	09/22/15 08:50	09/28/15 09:22
50128661003	16:GW Influent 20150922-033	Water	09/22/15 08:45	09/28/15 09:22
50128661004	55:Filtered Water 20150924-015	Water	09/24/15 08:05	09/28/15 09:22
50128661005	16:GW Inprocess 20150924-016	Water	09/24/15 08:10	09/28/15 09:22
50128661006	16:GW Influent 20150924-017	Water	09/24/15 08:15	09/28/15 09:22



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SAMPLE ANALYTE COUNT

Project: GW Process Control

Pace Project No.: 50128661

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50128661001	55:Filtered Water 20150922-031	EPA 200.8	CAW	2
50128661002	16:GW Inprocess 20150922-032	EPA 200.8	CAW	2
50128661003	16:GW Influent 20150922-033	EPA 200.8	CAW	2
50128661004	55:Filtered Water 20150924-015	EPA 200.8	CAW	2
50128661005	16:GW Inprocess 20150924-016	EPA 200.8	CAW	2
50128661006	16:GW Influent 20150924-017	EPA 200.8	CAW	2



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ANALYTICAL RESULTS

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Sample: 55:Filtered Water Lab ID: 50128661001 Collected: 09/22/15 08:40 Received: 09/28/15 09:22 Matrix: Water 20150922-031 DF **Parameters** Results Units Report Limit Prepared CAS No. Analyzed Qual 200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 ND 0.0010 10/01/15 09:00 10/02/15 20:27 7440-38-2 Arsenic mg/L Selenium ND mg/L 0.0010 10/01/15 09:00 10/02/15 20:27 7782-49-2



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ANALYTICAL RESULTS

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Sample: 16:GW Inprocess Lab ID: 50128661002 Collected: 09/22/15 08:50 Received: 09/28/15 09:22 Matrix: Water 20150922-032 DF **Parameters** Results Units Report Limit Prepared CAS No. Analyzed Qual 200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 ND 0.0010 10/01/15 09:00 10/02/15 20:53 7440-38-2 Arsenic mg/L Selenium ND mg/L 0.0010 10/01/15 09:00 10/02/15 20:53 7782-49-2



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ANALYTICAL RESULTS

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Sample: 16:GW Influent 20150922- Lab ID: 50128661003 Collected: 09/22/15 08:45 Received: 09/28/15 09:22 Matrix: Water

033	Lab ID. 301	20001003	Collected. 03/22/1	3 00.40	o Neceivea. Os	//20/13 09.22 IV	iallix. Walei	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Meth	nod: EPA 20	0.8 Preparation Met	hod: Ef	PA 200.8			
Arsenic	0.031	mg/L	0.0010	1	10/01/15 09:00	10/02/15 20:58	7440-38-2	
Selenium	0.078	mg/L	0.0010	1	10/01/15 09:00	10/02/15 20:58	7782-49-2	



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ANALYTICAL RESULTS

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Sample: 55:Filtered Water Lab ID: 50128661004 Collected: 09/24/15 08:05 Received: 09/28/15 09:22 Matrix: Water 20150924-015 DF **Parameters** Results Units Report Limit Prepared CAS No. Analyzed Qual 200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 ND 0.0010 10/01/15 09:00 10/02/15 21:02 7440-38-2 Arsenic mg/L Selenium ND mg/L 0.0010 10/01/15 09:00 10/02/15 21:02 7782-49-2



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ANALYTICAL RESULTS

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Sample: 16:GW Inprocess Lab ID: 50128661005 Collected: 09/24/15 08:10 Received: 09/28/15 09:22 Matrix: Water 20150924-016 DF **Parameters** Results Units Report Limit Prepared CAS No. Analyzed Qual 200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 ND 0.0010 10/01/15 09:00 10/02/15 21:06 7440-38-2 Arsenic mg/L Selenium ND mg/L 0.0010 10/01/15 09:00 10/02/15 21:06 7782-49-2



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Sample: 16:GW Influent 20150924- Lab ID: 50128661006 Collected: 09/24/15 08:15 Received: 09/28/15 09:22 Matrix: Water

017	Labib. 301	20001000	Oonected: 03/24/1	5 00.10	o received. ee	7/20/13 03.22 IV	iatrix. Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Met	hod: EPA 20	0.8 Preparation Met	hod: El	PA 200.8			
Arsenic Selenium	0.063 0.087	mg/L mg/L	0.0010 0.0010	1 1		10/02/15 21:11 10/02/15 21:11		



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QUALITY CONTROL DATA

GW Process Control Project:

Pace Project No.: 50128661

Arsenic

QC Batch: MPRP/18023 Analysis Method: EPA 200.8 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Associated Lab Samples: 50128661001, 50128661002, 50128661003, 50128661004, 50128661005, 50128661006

METHOD BLANK: 1392052 Matrix: Water

Associated Lab Samples: 50128661001, 50128661002, 50128661003, 50128661004, 50128661005, 50128661006

Blank Reporting Parameter Result Limit Qualifiers Units Analyzed ND 0.0010 10/02/15 20:14 mg/L Selenium mg/L ND 0.0010 10/02/15 20:14

LABORATORY CONTROL SAMPLE: 1392053

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/L	.04	0.036	90	85-115	
Selenium	mg/L	.04	0.036	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1392055 1392054

			MS	MSD								
		50128661001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/L	ND	.04	.04	0.037	0.037	94	93	70-130	1	20	
Selenium	mg/L	ND	.04	.04	0.038	0.038	95	93	70-130	2	20	

MATRIX SPIKE SAMPLE: 1392056

Date: 10/05/2015 04:56 PM

Parameter	Units	50128661002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	ND	.04	0.038	96	70-130	
Selenium	mg/L	ND	.04	0.039	96	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



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QUALIFIERS

Project: GW Process Control

Pace Project No.: 50128661

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Date: 10/05/2015 04:56 PM

REPORT OF LABORATORY ANALYSIS



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GW Process Control

Pace Project No.: 50128661

Date: 10/05/2015 04:56 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50128661001	55:Filtered Water 20150922-031	EPA 200.8	MPRP/18023	EPA 200.8	ICPM/2074
50128661002	16:GW Inprocess 20150922-032	EPA 200.8	MPRP/18023	EPA 200.8	ICPM/2074
50128661003	16:GW Influent 20150922-033	EPA 200.8	MPRP/18023	EPA 200.8	ICPM/2074
50128661004	55:Filtered Water 20150924-015	EPA 200.8	MPRP/18023	EPA 200.8	ICPM/2074
50128661005	16:GW Inprocess 20150924-016	EPA 200.8	MPRP/18023	EPA 200.8	ICPM/2074
50128661006	16:GW Influent 20150924-017	EPA 200.8	MPRP/18023	EPA 200.8	ICPM/2074

Face Analytical " www.pacelebs.com

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Bountains	Section B	:		Section C				Page:		of	
	Donot To:			Invoice Information	tion:		<i>></i>		7	JOY	
ESWARDSPORT IGC	MARK D. 1	PENCOCK DUKE ENERGY	NERGY	Attention:					ア -	14003	カ
Address: 15424 E. SR358	CODY TO RIVETT MED DY	Duk	מר	Company Name	.60		REGULATORY AGENCY	AGENCY			
Edwards Const (1) 47528	Blown Massiles	WG CAPPAN	7	Address:			I SECUL	GROUND WATER	WATER F		DRINKING WATER
Email To:		Purchase Order No.:	10/0	Pace Quote			L ISI	RCRA		*	i
Phone: 735 - 8583 Faz. 725. 5838	Project Name:	2 2 4 2 7 7 7 7		Reference: Pace Project			Site Location			Ni i	
2	Project Number.	7027		warrager. Pace Profile #:			STATE:	INDIANA	· ·		
						Requested	Requested Analysis Filtered (Y/N)	(N/N)			
Section D Matrix Codes	(fle	- CO				1 n/					
E *	GRAB C=CON	COMPOSITE COMP	COMPOSITE ENDIGRAB		SANDA				(N/N)		
SAMPLE ID Oil (A-Z, 0-9 / -) Ar Sample IDs MUST BE UNIQUE Tissue Other	MATRIX CODE (G=	DATE TIME	E TEMP AT C	# OF CONTAINER: H ₂ SO ₄	Methanol Na ₂ S ₂ O ₃ HCI HUO ³	Other Analysis Test As, SE 200			Pesidual Chlorine	50128661	190
1 55: FLUERED DATER 20150912-03	1 WT G										
2 16:50 IN PRICESS 2015 0922 -052	WI G									2	20
3 16:5W INFWENT 2015-033	WT									7	003
Õ										1	700
\$ 16:GWIN PROCESS 20150924-016	ت لا									3	%
6 16: GW INFLUENT 20150924-017	25 TW					7				Q	gol
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100											
ADDITIONAL COMMENTS	RELINGUISH	RELINQUISHED BY AFFILIATION	DATE	TIME	ACCEPT	ACCEPTED BY / AFFILIATION	DATE		SAI	SAMPLE CONDITIONS	SNC
	- arma	Keeply	9-24-15	6955	Kalex				•		
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		SAMPLER NAME AND SIGNATURE	AND SIGNATURE							Je	to
4 of	ORIGINAL	PRINT Na	PRINT Name of SAMPLER:	DIANA	REPOR				O, U(A)	stody i Ceolo VN)	saini se (N/)
16		SIGNATU	RE of SAMPLER:		, 14	DATE Signed (MM/DD/YY):	09-24-15		Весе	Seale	lqms2 ()
"Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeting to late charges of 1,5% per month for any involces not paid within 30 days.	iting Pace's NET 30 day paymer	nt terms and agreeing to late charg	jes of 1.5% per month	for any involces	not paid within 30 days.	The state of the s		14	ALL-Q-020re	F-ALL-Q-020rev.07, 15-May-2007	2007

· Sami	ple Condition Upon Receipt	
Face Analytical Client Name:	Dute Energy Project # 50128661	
Client Name.	Jaire Ball	
Courier: Ded Ex Ups Ups Usps Client	Commercial Pace Other	
Tracking # 0467 454301 60	Date/Time 5035A kits	
Custody Seal on Cooler/Box Present: (A)es	no Seals intact: no placed in freezer	
Packing Material: Bubble Wrap Bubble E	Bags None Other	
Thermometer 123456 ABCDEF	Type of Ice: Wet Blue None Samples on ice, cooling process has begun	
Cooler Temperature 21.9	Ice Visible in Sample Containers: yes no	
(Corrected, if applicable) Temp should be above freezing to 6°C	Date and Initiate of person examining. Comments: contents: 125/15/01/1	
Chain of Custody Present:	Xes □No □N/A 1.	
Chain of Custody Filled Out:	DYOS DE DNA 2. NO times collected on C.O.	C
Chain of Custody Palice Cut. Chain of Custody Relinquished:	©€s □No □N/A 3.	•
Sampler Name & Signature on COC:	¥Ces □No □N/A 4.	
Short Hold Time Analysis (<72hr):	□Yes □N/A 5.	
Rush Turn Around Time Requested:	□Yes NNo □N/A 6.	
Containers Intact:	[Ves □No □N/A 7.	
Sample Labels match COC:	□No □N/A 8.	
-Includes date/time/ID/Analysis	no 1 det cored c	30
All containers needing acid/base pres. have been checked?	We □No □N/A 9. (Circle) HNO3 H2SO4 NaOH RACHIZHAC	۔ ۱۹کو
exceptions: VOA, coliform, TOC, O&G	20150922 -033 (Gw Influent) ph=3 20150924 -017(Gw Influent) ph=3	
All containers needing preservation are found to be in com- recommendation (<2, >9, >12) unless otherwise noted.	2015 69 24 - 017 (Gw (nHuer) ph= 3	
Residual Chlorine Check (SVOC 625 Pest/PCB 608	3) 10. Present Absent	
Headspace in VOA Vials (>6mm):	□Yes □No €NA 11.	
Headspace TCLP Volatiles	☐Yes ☐No 12	
Headspace Wisconsin Sulfide / Acidity	□Yes □No 13	
Trip Blank Present:	□Yes □No (En/A) 14	
Trip Blank Custody Seals Present	□Yes □No □Ty/A	
Rioject Manager Review		
Samples Arrived within Hold Time:	□Yes □No □N/A 15.	
Sufficient Volume:	□Yes □No □N/A 16.	
Correct Containers Used: Client Notification/ Resolution:	☐Yes ☐No ☐N/A 17. Field Data Required? Y / N	•
Person Contacted:	Date/Time:	
Comments/ Resolution: TEM# 0	7840 ITEM #2 0850 17E14#3 0845	
(TEME 4 0805 TEM #	5 2810, HEM# 6 0813. TIMES ACE.	
Indicated on labels	,	

Sample Container Count

CLIENT: DUKE ENUNGE COCIDE TO PROPERTY OF THE COCIDE TO PROPERTY OF TH

Project # 5012866/

اغُ	Container Codes						
40r	DG9H 40mL HCL amber voa vial	AGOU	AGOU 100mL unpreserved amber glass	BP1N	BP1N 1 liter HNO3 plastic	DG9P	DG9P 40mL TSP amber vial
#	1liter unpreserved amber glass	AG1H	AG1H 1 liter HCL amber glass	BP1S	BP1S 1 liter H2SO4 plastic	DG9S	DG9S 40mL H2SO4 amber vial
4	WGFU 4oz clear soil jar	AG1S	AG1S 1 liter H2SO4 amber glass	BP1U	BP1U 1 liter unpreserved plastic	DG9T	DG9T 40mL Na Thio amber vial
कें	R terra core kit	AG1T	AG1T 1 liter Na Thiosulfate amber glass	BP1Z	BP1Z 1 liter NaOH, Zn, Ac	DG90	DG9U 40mL unpreserved amber vial
20	500mL HNO3 plastic	AG2N	AG2N 500mL HNO3 amber glass	BP2A	BP2A 500mL NaOH, Asc Acid plastic	SP5T	SP5T 120mL Coliform Na Thiosulfate
2	500mL unpreserved plastic	AG2S	AG2S 500mL H2SO4 amber glass	BP20	BP20 500mL NaOH plastic	JGFU	JGFU 4oz unpreserved amber wide
ŭ	500mL H2SO4 plastic	AG2U	AG2U 500mL unpreserved amber glass	BP2Z	BP2Z 500mL NaOH, Zn Ac	U	U Summa Can
12	BP3N 250mL HNO3 plastic	AG3U	AG3U 250mL unpreserved amber glass	ΑF	AF Air Filter	VG9H	VG9H 40mL HCL clear vial
15	250mL unpreserved plastic	BG1H	BG1H 1 liter HCL clear glass	BP3C	BP3C 250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
13	BP3S 250mL H2SO4 plastic	BG1S	BG1S 1 liter H2SO4 clear glass	BP3Z	BP3Z 250mL NaOH, Zn Ac plastic	VG9U	VG9U 40mL unpreserved clear vial
12	AG3S 250mL H2SO4 glass amber	BG1T	BG1T 1 liter Na Thiosulfate clear glass	C	C Air Cassettes	VSG	VSG Headspace septa vial & HCL
~	AG1S 1 liter H2SO4 amber glass	BG10	BG1U 1 liter unpreserved glass	DG9B	DG9B 40mL Na Bisulfate amber vial	WGFX	WGFX 4oz wide jar w/hexane wipe
~	BP1U 1 liter unpreserved plastic	BP1A	BP1A 1 liter NaOH, Asc Acid plastic	DG9M	DG9M 40mL MeOH clear vial	ZPLC	ZPLC Ziploc Bag